ITS PROJECT APPLICATION FORM
FY 2009

General Instructions: This form is to be used to request federal Congestion Mitigation and Air Quality (CMAQ) funding available through the Maricopa Association of Governments for Intelligent Transportation System (ITS) projects to be included in the FY 2009-2013 MAG Transportation Improvement Program. Currently funding is available only for **FY 2009**.

Separate application forms are available for bicycle, pedestrian, air quality, and transit projects. Freeway, street and rail transit projects will be programmed in a separate process.

This application form includes:

- Part A: Project Description and TIP Listing Information. In Part A, the applicant provides the minimum information necessary to list a project in the TIP as required by applicable federal regulations and general descriptive information necessary for MAG staff and technical committees to evaluate the project.

- Part B: Project Congestion Management System (CMS) and Congestion Mitigation Air Quality (CMAQ) Data: In Part B, the applicant provides data necessary for MAG staff to calculate CMS and CMAQ scores for projects.

- Part C: MAG Technical Committee Additional Information. This section is used to collect information requested by the MAG ITS Committee. The MAG ITS Committee is charged with evaluating and recommending ITS projects for federal funding. **PLEASE NOTE: Part C is only available electronically.** It is available at: http://www.mag.maricopa.gov/project.cms?item=413, or you can contact Leo Luo: lluo@mag.maricopa.gov, and he will send you the electronic file.

Deadlines and Transmittal Instructions: All sections should be completed and returned to MAG Offices by **5:00 p.m. September 7, 2007.** Please e-mail Judy Tadlock at MAG, jtadlock@mag.maricopa.gov this application (Part A & B). Part C is only available electronically as noted above. Please e-mail Leo Luo the completed Part C, excel file to lluo@mag.maricopa.gov. The mailing address and FAX number for the MAG offices is:

ATTN: Judy Tadlock
Maricopa Association of Governments
302 North 1st Avenue, Suite 300
Phoenix, Arizona 85003
FAX Number: (602) 254-6490

Electronic Download Information: A downloadable version of these forms in Microsoft Word is available on the MAG website at http://www.mag.maricopa.gov/project.cms?item=413. If requested, MAG staff will also provide these forms via e-mail or FAX.

MAG Contact Information: If you have any questions, please contact Stephen Tate or Eileen Yazzie at (602) 254-6300 or at state@mag.maricopa.gov.

Agency Contact Information: Please complete the following contact information for each project, so that we may contact you should we need additional information.

1.	Name of the Agency Contact for the Project Request: **Jamal Rahimi**	2.	Telephone: **623-773-7224**
3.	E-mail **Jamal.Rhaimi@peoriaaz.gov**	4.	Date: 09/05/2007

ITS PROJECT APPLICATION FORM – FY 2009-2013 TIP
Part A: Project TIP Listing Information and Description

Section One: TIP Listing Information.

Please complete the following information for all projects. If the project is accepted for MAG federal funding, the project information provided in this section will appear in the TIP as provided by the applicant

1. Sponsoring Agency Name: **City of Peoria**	2. Year (Please check box): ☒ FY 2009
3. Project Location (The project limits if applicable): Within the City of Peoria, connecting existing Traffic Signals to the Central System using a hybrid wireless Fiber System. 35 additional signals will be connected with this project.	
4. Type of Work (Description of the work to be performed): Existing Traffic Signals within the City of Peoria will be connected to the fiber backbone, and back to central with either fiber or wireless. This connection will allow the City to manage the signals in a manner to reduce congestion, delay, and improve incident management on arterials roadways.	
5. Amount of Federal Funds Requested (This amount cannot exceed **70.0** percent of the total cost of the project.): **$525,000**	6. Type of Federal Funds Requested (Please check box.): ☐ MAG STP ☒ CMAQ
7. Amount of Local Funds to be Used (This amount cannot be less than **30.0** percent of the total cost of the project.): **$225,000**	8. Type of Local Funds to be Used: (Please check only one box.): ☒ HURF ☐ Impact Fees ☐ General Fund ☐ Bond Proceeds ☐ Sales Tax ☐ Private ☐ Property Tax ☐ Other, Please specify: _____
9. Total Cost of the Project: (This amount must equal the sum of the federal and local amounts requested): **$750,000**	
10. Please attach a map, drawing, photograph, plans or other graphic showing the location of the project. If no graphic is available or it is not feasible to provide one, please indicate this fact in the space below.	

As the existing traffic signals are located throughout the City of Peoria, AZ it is not practical to show a diagram or sketch of the locations. However, the first Phase of this project Project No. **CM-PEO-0(008) A**Tracs No. **SS57001C** mainly connected the signals on the side of Loop 101. This project will connect signals on the west side of Loop 101, including those from Union Hills to the North.

ITS PROJECT APPLICATION FORM – FY 2009-2013 TIP
Part B: CMS and CMAQ Data

General Instructions: In Part B, the applicant provides data necessary for MAG staff to calculate Congestion Management System (CMS) and CMAQ scores for projects.

Section One: Congestion Management System and CMAQ Data

Please complete the following information for all street projects. The information used in this section is used to calculate CMS scores.

1. Current Average Daily Traffic (ADT) on the Facility or the Nearest Parallel Facility of a Similar Type: • **18,000 ADT** • **30,000 ADT** • **21,000 ADT** • **34,000 ADT** • **11,000 ADT** • **10,500 ADT**	2. Name of the Roadway Section Used for the ADT Estimate: • **Lake Pleasant Pkwy – Union Hills Rd to Happy Valley Rd** • **Union Hills Rd – 83rd Ave to 91st Ave** • **Peoria Avenue – Loop 101 to 95th Ave** • **Thunderbird Rd – Loop 101 to 94th Dr** • **83rd Ave – Lake Pleasant Pkwy to High Desert Dr** • **91st Ave – Thunderbird Rd to Deer Valley Rd**	3. Type of Facility to be Improved (Check only one box): ☐ Arterial > 4 legs (e.g. Grand) ☒ Arterial Street ☐ Collector Street ☐ Other
4. Number of **Through** Lanes Currently on the Facility Prior to Project Completion (Do not include right, left or center turn lanes): **5**	5. Number of **Through** Lanes on the Facility After the Project is Completed (Do not include auxiliary lanes): **5**	6. Length of the Facility (in miles): **17 mi.**
7. Township Coordinate of the Midpoint of the Facility: **n/a**	8 Range Coordinate of the Midpoint of the Facility: **n/a**	9. Section Coordinate of the Midpoint of the Facility: **n/a**

ITS PROJECT APPLICATION FORM – FY 2009-2013 TIP
Part B: CMS and CMAQ Data

10. If the project improves traffic signal coordination, please do the following:

a. Enter the pre-improvement (current) traffic speed of the traffic corridor:

- **Lake Pleasant Pkwy - 46 MPH**
- **Union Hills Rd - 53 MPH**
- **Peoria Avenue - 43 MPH**
- **Thunderbird Rd - 44 MPH**
- **83rd Ave - 50 MPH**
- **91st Ave - 46 MPH**

b. In the Table Check the Box in The Row That Best Describes the Project (Check Only One Box):

	Before (Pre-Improvement) Condition	After (Post Improvement) Condition	Expected Increase In Speed
☐	Non-interconnected, pre-timed signals with old timing plan	Advanced computer-based control	25.0 percent
☐	Interconnected, pre-timed signals with old timing plan	Advanced computer-based control	17.5 percent
☐	Non-interconnected signals with traffic-actuated controllers	Advanced computer-based control	16.0 percent
☒	Interconnected, pre-timed signals with actively managed timing	Advanced computer-based control	8.0 percent
☐	Interconnected, pre-timed signals with various forms of master control and various qualities of timing plans	Optimization of signal timing plans. No change in hardware	12.0 percent
☐	Non-interconnected, pre-timed signals with old timing plan	Optimization of Signal Timing Plans	7.5 percent

11. Other Project Information: (Check as many as are applicable):

☒ Includes Traffic Signal Improvements for a Single Agency
☐ Includes Traffic Signal Improvements that Apply to More than One Agency
☐ Includes FMS Improvements
☐ The Project Conforms to Local Land Use Plans
☐ The facility is on the adopted MAG Roads of Regional Significance Network
☐ Adds Traffic Signals that increase pedestrian crossing time for seniors

12 Management System (Please check only <u>one</u> box)

☒ Congestion Management System (CMS)
☐ Bridge Management System (BMS)
☐ Pavement Management System (PMS)
☐ Public Transportation Management System (PTMS)
☐ Safety Management System (SMS)
☐ Intermodal Management System (IMS)
☐ Other

13. Please identify the priority the agency places on this project. If for example, the agency is submitting three requests for ITS projects and this is the agency's highest priority, then a "1" should be entered. Each priority entered should be unique – e.g. no two requests for ITS projects should have the same priority.

1

Part C: MAG Technical Committee Additional Information

This section is used to collect information requested by the MAG ITS Committee. The MAG ITS Committee is charged with evaluating and recommending ITS projects for federal funding. **Part C is only available electronically. It is available at: http://www.mag.maricopa.gov/project.cms?item=413, or you can contact Leo Luo: lluo@mag.maricopa.gov, and he will send you the electronic file.**

Contact Information

Please contact Sarath Joshua or Leo Luo at (602) 254-6300 or sjoshua@mag.maricopa.gov, lluo@mag.maricopa.gov for additional information or questions.

FY 2009 - 2013 TIP - Programming 2009
MAG ITS Project Data Form

Please enter project data ONLY in highlighted cells, save the file with the lead agency name in it - ie. Mesa ITS Projects.xls

Submit this Excel workbook to MAG via email to: LLUO@MAG.MARICOPA.GOV

Please use one worksheet per project, with the tab at the bottom indicating agency priority

Links to various websites are provided for additional information and help
The worksheet titled "Example" shows an example on how to enter Data in the highlighted areas. If errors are detected alerts will pop-up in red text.

The worksheet titled "HELP" shows how to figure out your project's ITS Subsystems & Architecture Flows

Please enter required information in highlighted cells

A. Project Title & Sponsor

Lead Agency	City of Peoria
Other Partnering Agencies	
ITS Project Title:	Traffic Signal System Project

B. Project Goals & Objectives

Project Goals:

Establish Communications between 35 existing traffic signals and the central system.

Objectives:

Te enable the City to manage traffic using the central system software (I2 by Siemens) to provide better congestion management, more flexable timing plans and better incident management.

C. Define ITS Subsystems, Achitecture Flows, Communications & Arterial ITS Applications

SELECT ITS Subsystems: http://www.iteris.com/itsarch/html/entity/pa	Yes or No
Center Subsystem	YES
Traveler Subsystem	NO
Field/Roadside Subsystem	NO
Vehicle Subsystem	NO
Communications Subsystem	YES

Architecture Flows (Information flows among four subsystems: Traveler, Center, Roadside and Vehicle Subsystems)

From Subsystem	To Subsystem	Information flow

Peoria TMC (Center)	Traffic Signals	timing, volumes,
Peoria TMC (Center)	Traveler	real time information fo
Peoria TMC & RADS	Filed/Roadside	Realtim VOS for system
Traffic Signals	**Peoria TMC**	timing, volumes,
Traveler Infoprmation (DMS)	**Peoria TMC**	real time information fo
Filed/Roadside	**Peoria TMC &**	Realtim VOS for system

Communications: Required communications medium for data sharing with other agencies: (if applicable)

From agency	To agency	data flow	Medium	Existing?	Future (year) mm/yyyy	Check Date with Project Schedule
Peoria	RADS	Signal Timing				
Peoria	RADS	VOS Data				
Peoria	RCN	Signal Timing, Video				

Arterial ITS applications	Relevant Applications (ENTER: Yes or No)	Applicable ITS User Services Addressed http://www.iteris.com/itsarch/html/user/userserv.htm	Applicable ITS Market Packages http://www.iteris.com/itsarch/html/mp/mpindex.htm
1. Traffic Management	Yes	1.6	
2. Transit Operations Support	No		
3. Interagency Data Sharing and Control	Yes	1.1	
4. Integrated Traveler Information	No		
5. Archived Data Management	Yes	7.1	
6. Incident Management	Yes	1.7	
7. Freeway-Arterial	No		

D. Project Budget

(1) The total of all federal funds requested for ITS projects by any MAG member agency should not exceed $1 million per program year per agency.
(2) Joint projects that involve 3 or more agencies may exceed $1m in federal cost. Federal cost of each agency's component will not be counted against the $1m limit.

(3) There is no limit on the number of projects that may be submitted by an agency, but each project requires the 30 percent local cost match
(4) For multijurisdictional projects, the federal and local shares of each partnering agency must be shown below.

	Federal Cost	Local Match (min 30%)	Total Cost
Lead Agency	$525,000.00	$225,000.00	**$750,000.00**
Partnering Agency#1			**$0.00**
Partnering Agency#2			**$0.00**
Partnering Agency#3			**$0.00**
Total	$525,000.00	$225,000.00	$750,000.00
Cost percentage	**70.0%**	**30.0%**	

Note: Each participating agency should provide at least 30% local match for its share of the total cost

E. Project Schedule

The following project milestones and schedules are based on a typical project procurement process. Please select applicable milestones. Some ITS projects may follow an abbreviated process. ENTER estimated time for such a process

Standard Project Milestones	Default Schedule for Process	Applicable Milestones (ENTER - Yes OR No)	Estimated Time to Milestone (ENTER #Months)	Estimated Date (Enter> mm/yyyy)
Apply for ADOT project number				Oct-2008
Receipt of ADOT project number	Dec-2008	Yes	2	Dec-2008
Initial DCR	Jan-2009	NO	4	NA
Final DCR	Feb-2009	NO	5	NA
30% Preliminary Plans, Cost Estimate and Report	Apr-2009	NO	7	NA
60% Preliminary Plans, Cost Estimate and Report	Jun-2009	NO	9	NA

Final Preliminary Plans, Cost Estimate and Report	Aug-2009	NO	11	NA
Environmental Clearance	Jun-2009	Yes	9	Jul-2009
Utility Clearance	Jul-2009	Yes	10	Jul-2009
Right-of-Way Clearance	Apr-2009	Yes	10	Aug-2009
Approval of IGA	Oct-2009	Yes	14	Dec-2009
Obligation authority of Federal funds	Nov-2009	Yes	15	Dec-2009
Advertised Date	Jan-2010	Yes	18	Mar-2010
Final Deployment	Jul-2010	Yes	24	Sep-2010

F. System Maintenance and Operations

Current staff resources available for ITS operations at the local agency (FTEs)	2
Additional staff resources required for fully utilizing features added by project (FTEs)	1
Estimated current annual ITS operations & maintenance budget	$67,000
Estimated additional annual operations & maintenance funds required for features added by project	$5,000
Estimated DATE from when required additional O&M funds will be available	Jul-2009

Other comments:

This project will complement the existing Traffic Signal System project that installed the current Siemen's I2 Computerized Traffic Signal System and connected half of the existing traffic signals (apprx 50). Due to rise in equipment / construction cost the City needs additional funding to complete the communications infrastructure and

plans to connect an additonal 35 signals (total of 85 signals) with the funding requested.

G. Systems Engineering Analysis Requirement

Commitment to address the federal requirement for Systems Engineering Analysis:
Agency's intent to follow the process described in the 'V' diagram (See Appendix A of Arterial ITS Plan) during the project development process

The project sponsor or lead agency intends to incorporate the Systems Engineering Analysis in the scope of work for the project's Design Concept Report. The Systems Engineering Analysis will be carried out based on the document Systems Engineering for ITS published by FHWA in Janaury 2007. A guidelines document prepared by FHWA (AZ office) and MAG dated August 2006 is also available (both are posted at the MAG website).